

REMARKS

In the Office Action, the examiner allowed claims 4-23, which is appreciatively acknowledged. The examiner rejected claims 1-3 and 24-27 as anticipated under 35 U.S.C. 102(b) by either the Roye reference or the Lien reference. The rejection is traversed, and reconsideration is respectfully requested.

Regarding the Roye reference, the examiner contends that it discloses:

“...an arrangement for forming a digital representation of an image in which objects (“slices”) are grabbed, trivial gaps are separated from significant information, the significant information is retained while the trivial gaps are discarded, and a reduced noise version of the image is generated containing only the former”.

The applicants believe that the examiner is erroneously using the words “objects” and “slice” synonymously. However, an “object” is a collection of connected “slices”. The terms “slice”, “runlength”, and “raster line” all refer to the same thing, and an “object” is a connected collection of those. In contrast, the invention of claims 1-3 and 24-27 operates to find multiple objects, each containing multiple slices. The multiple objects then each are examined (in context with other objects around them) to determine which objects constitute noise and which objects constitute data. The objects which constitute noise are eliminated.

In contrast, the system disclosed in the Roye reference operates entirely differently. It operates only on raster lines within a single object at a time, and operates to detect any minute gaps or holes within that object, and then operates so that the current raster line fills in the

detected minute gaps or holes. See column 2, line 63 to column 3, line 7 of the Roye reference.

Therefore, the limitation in step (a) of claim 1 “performing an object grabbing operation on the digital representation to obtain all objects of the document” clearly is not disclosed or suggested by the Roye reference.

Furthermore, the limitation of step (b) of claim 1 “identifying objects that represent essential information of the document and marking them as data objects” also is not disclosed or suggested by the Roye reference. To the contrary, the Roye disclosure of operating along a raster line to detect gaps or holes in the single grabbed object is much different than identifying multiple objects that represent essential information and marking them as data objects, as recited in claim 1. For these reasons, it is respectfully submitted that claims 1-3 and 24-27 are not anticipated by the Roye reference.

Regarding the Lien reference, examiner contends that it discloses

“...an arrangement for forming a digital representation of an image in which objects (arc vectors, line vectors, or filled shapes) are grabbed, objects which can be merged into other objects are merged into combined objects, the significant information (non-mergeable objects and merged objects) is retained while the individual objects that form merged objects are discarded, and a reduced noise version of the image is generated containing only the former”.

However, it is respectfully submitted that the examiner is incorrect in contending (1) that the Lien reference discloses that the individual objects which form merged objects are discarded, and (2) that a reduced noise version of the image is generated containing only the significant

information (non-mergeable objects and merged objects.

To the contrary, it is respectfully submitted that the operation described in the Lien reference does not make any modifications to the raster image. The method disclosed by the Lien reference just creates vectors and saves them in a vector table. It should be noted that a vector is not a raster, it is a set of numbers describing an entity (e.g., the x,y end point coordinates of a line and a number specifying the line width). In the disclosure of the Lien reference, none of the substantive information is discarded when individual objects are merged. Furthermore, there is no disclosure or teaching of generating a reduced noise version that contains only the non-mergeable objects and merged objects.

In contrast, the system disclosed in the Lien reference operates to recognize specific shapes, such as polygons, filled circles, etc. To accomplish this, the Lien system operates to vectorize the edges of a single shape and then analyzes that single vectorized shape to determine if it is a valid predetermined shape. Therefore, it is respectfully submitted that the limitations of step (a) of claim 1 are not disclosed or suggested by the Lien reference.

Furthermore, if the Lien system does not recognize the single scanned raster object as a specific valid shape, then the Lien system identifies that shape as a “blob” and allows it to remain as noise in the system output. This is in direct contrast to eliminating noise as recited in claim 1. Furthermore, it is respectfully submitted that the examiner’s contention that the Lien reference discloses discarding image-representing data of objects which are merged and generating a

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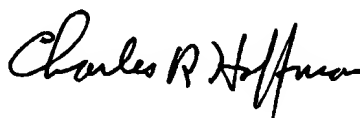
reduced noise overall image is incorrect, for the reasons indicated above. Therefore, it is respectfully submitted that steps (b) and (c) of claim 1 are not disclosed or suggested by the Lien reference. For these reasons, it is respectfully submitted that claims 1-3 and 24-27 are not anticipated by the Lien reference.

Claims 2, 3 and 24-27 are of similar scope to claim 1. Therefore, it is respectfully submitted that the above arguments are also applicable to claims 2, 3 and 24-27.

In view of the above arguments and amendments, it is respectfully submitted that the application now is in condition for allowance.

Respectfully submitted,

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